Morphological Exponence and Anti-Integration – Basic Model

I. Integration

There is a language-specific distribution of * and ! features that are PF instructions for morphological integration and anti-integration. Where integration rolls structure up to the label bearing the integration feature, I take anti-integration to be a collapsing of extra-phasal structure down into the morphological domain of the previous phase at PF. The idea is that phases are relevant only to narrow syntax for purposes of computational econcomy. The obvious corollary is that PF receives information in phase-sized chunks, but I propose a distinct ontology of representations and operations that map between them.

A. The syntax transfers a phase complement to PF.

[A* [B [C [X* [Y [Z]]]]]]

B. The phase defines the prosodic domain.

$_{\varphi}$[[A* [B [C [X* [Y [Z]]]]]]]

C. Integration features define domains of lexical application.[1]

$_{\varphi}$[$_{\omega}$[A* [B [C]]] $_{\omega}$[X* [Y [Z]]]]

D. Integration applies.

$_{\varphi}$[$_{\omega}$[<<<C>B>A>] $_{\omega}$[<<<Z>Y>X>]]

E. L-Match applies.[2]

$_{\varphi}$[$_{\omega}$[<<<C>B>A>] $_{\omega}$[<<<Z>Y>X>]]

<C-B> ↔ < *a* >
<A> ↔ < *b* >
<Z-Y-X> ↔ < *c* >

$_{\varphi}$[$_{\omega}$[< < *a* > *b* >] $_{\omega}$[< *c* >]]

F. Exponents define domains of morphological application.

$_{\varphi}$[$_{\omega}$[$_{\mu}$[$_{\mu}$[*a*] *b*]] $_{\omega}$[$_{\mu}$[*c*]]]

G. Morphological operations apply, namely antitropal alignment.

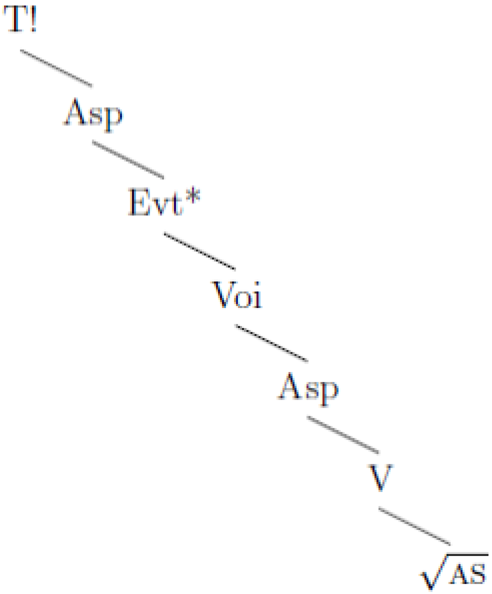
$_{\varphi}$[$_{\omega}$[$_{\mu}$[*b* $_{\mu}$[*a*]]] $_{\omega}$[$_{\mu}$[*c*]]]

H. Lexical stress is mapped, then phrasal stress.[3]

II. Anti-Integration

The basic model for integration as outlined above should be more or less consistent with current literature, besides the addition of μ units as being built from exponent boundaries. μ units are a non-trivial addition to the model, but one that I hope to show is ultimately necessary.

(1) as-ac^{h}-i "I said"



The basic structure above is what will be relevant to building *as-ac'-i*. Note that I take the phase to be Asp which transfers its complement to the interfaces. I have truncated the C phase just to T for brevity.

First Phase

A. Transfer of *Asp* complement.

[Evt* [Voi [Asp [V [√AS]]]]]

B. Prosodic domain delineation.

$_{\varphi}$[[Evt* [Voi [Asp [V [√AS]]]]]]

C. Lexical domain delineation.

$_{\varphi}$[$_{\omega}$[Evt* [Voi [Asp [V [√AS]]]]]]

D. Application of Integration.

$_{\varphi}$[$_{\omega}$[<<<<<√AS>V>Asp>Voi>Evt>]]

E. Application of L-Match

$_{\varphi}$[$_{\omega}$[<<<<<√AS>V>Asp>Voi>Evt>]]

<√AS-V-Asp-Voi>	↔	< *as* >	"say" verbal stem
<Evt>	↔	< *ac*^{h} >	non-dynamic eventive morpheme

$_{\varphi}$[$_{\omega}$[<< *as* > *ac*^{h} >]]

F. Morphological domain delineation.

$_{\varphi}$[$_{\omega}$[$_{\mu}$[$_{\mu}$[*as*] *ac*^{h}]]]

G. Application of morphological operations.

$_{\varphi}$[$_{\omega}$[$_{\mu}$[$_{\mu}$[*as*] *ac*^{h}]]]

< *ac*^{h} > ~]$_{\mu}$	< *ac*^{h} > is non-antitropal (pace Bye & Svenonius 2011) thus readily remains on the edge provided by syntax.

H. Mapping of stress domains.

$_{\varphi}$[$_{\omega}$[$_{\mu}$[$_{\mu}$[*as*] *ac*^{h}]^{L}]]

For now, I will simply denote lexical stress. Marking the outer-most morphological unit as the domain of lexical stress assignment is an instruction for the phonology that stress will apply within it. This seems tautological, but defining the stress boundary is relevant to determining alignment of morphemes that have stress deficiencies, etc.

Second Phase

A. Transfer of *C* complement (truncated).

[T! [Asp [$_{\varphi}$[$_{\omega}$[$_{\mu}$[$_{\mu}$[*as*] *ac*^{h}]^{L}]]]]

B. Prosodic domain delineation.

$_{\varphi}$[[T! [Asp $_{\varphi}$[$_{\omega}$[$_{\mu}$[$_{\mu}$[*as*] *ac*^{h}]^{L}]]]]]

C. Lexical domain delineation.

$_{\varphi}$[$_{\omega}$[T! [Asp $_{\varphi}$[$_{\omega}$[$_{\mu}$[$_{\mu}$[*as*] *ac*^{h}]^{L}]]]]]

D. Application of Anti-Integration

$_{\varphi}$[$_{\omega}$[$_{\varphi}$[$_{\omega}$[<T <Asp $_{\mu}$[$_{\mu}$[*as*] *ac*^{h}]^{L}> >]]]]

Anti-Integration makes the extra-phasal structure relevant to morphological operations applying within the previous phase's lexical unit. Note that if T had an integration feature, we would expect an output more in line with French "V-to-T" movement:

$_{\varphi}[\ _{\omega}[\mathrm{T}^*\ [\mathrm{Asp}\ _{\varphi}[\ _{\omega}[\ _{\mu}[\ _{\mu}[\ \mathit{as}\ ]\ \mathit{ac}^{h}\ ]^{\mathrm{L}}\ ]\ ]\ ]\ ]\ ]$

$_{\varphi}[\ _{\omega}[\ <\mathrm{T}\ <\mathrm{Asp}\ _{\varphi}[\ _{\omega}[\ _{\mu}[\ _{\mu}[\ \mathit{as}\ ]\ \mathit{ac}^{h}\ ]^{\mathrm{L}}\ ]\ ]\ >\ >\ ]\ ]$

The technical import of this difference is what happens when we consider the presence of *C*-phase arguments like sentential adverbs, the relative distribution of which initially suggested the V-to-T versus T-to-V distinction. On the assumption that the adverb is an argument of T (merged to Asp) then we would expect to see linearization of the adverb such that it follows the T-Verb unit, whereas in the case of Anti-Integration, we can successfully derive T-to-V in that any argument within the domain of T will linearize leftward, since T is brought downwards into the lower domain.

E. Application of L-Match

$_{\varphi}[\ _{\omega}[\ _{\varphi}[\ _{\omega}[\ <\mathrm{T}\ <\mathrm{Asp}\ _{\mu}[\ _{\mu}[\ \mathit{as}\ ]\ \mathit{ac}^{h}\ ]^{\mathrm{L}}>\ >\ ]\ ]\ ]\ ]$

<T-Asp> ↔ < *i* > agreement morpheme bearing [past] and [1SG] values.

$_{\varphi}[\ _{\omega}[\ _{\varphi}[\ _{\omega}[\ <\ \mathit{i}\ _{\mu}[\ _{\mu}[\ \mathit{as}\ ]\ \mathit{ac}^{h}\ ]^{\mathrm{L}}\ >\ ]\ ]\ ]\ ]$

F. Morphological domain delineation.

$_{\varphi}[\ _{\omega}[\ _{\varphi}[\ _{\omega}[\ _{\mu}[\ \mathit{i}\ _{\mu}[\ _{\mu}[\ \mathit{as}\ ]\ \mathit{ac}^{h}\ ]^{\mathrm{L}}\ ]\ ]\ ]\ ]\ ]$

G. Application of morphological operations.

$_{\varphi}[\ _{\omega}[\ _{\varphi}[\ _{\omega}[\ _{\mu}[\ \mathit{i}\ _{\mu}[\ _{\mu}[\ \mathit{as}\ ]\ \mathit{ac}^{h}\ ]^{\mathrm{L}}\ ]\ ]\ ]\ ]\ ]$

$<\mathit{i}>\ \nsim\ _{\mu}[\ ,\ \sim\ ]^{\mathrm{L}}$ < *i* > is antitropal but also requires an edge bearing an $^{\mathrm{L}}$ index—the exponent is stress deficient and requires juxtaposition to a lexical stress unit.

$_{\varphi}[\ _{\omega}[\ _{\varphi}[\ _{\omega}[\ _{\mu}[\ _{\mu}[\ _{\mu}[\ \mathit{as}\ ]\ \mathit{ac}^{h}\ ]^{\mathrm{L}}\mathit{i}\ ]\ ]\ ]\ ]\ ]$

H. Mapping of stress domains.

$_{\varphi}[\ _{\omega}[\ _{\varphi}[\ _{\omega}[\ _{\mu}[\ _{\mu}[\ _{\mu}[\ \mathit{as}\ ]\ \mathit{ac}^{h}\ ]\ \mathit{i}\ ]^{\mathrm{L}}\ ]\ ]\ ]\ ]$

Being that < *i* > found a suitable lexical stress edge to attach to, it is capable of bearing lexical stress.

III. Notes

1. This is basically the same as outlined in Bye & Svenonius 2011. Specifically, the authors state that an "incorporated consitutent [...] spells out a phonological word." I differ slightly in that integration features first delineate lexical boundaries that are then subdivisible into morphological units (based on exponent insertion). It is a subtle difference, but critical when considering the effects of morphological insertion as a result of anti-integration, as explained further on.

2. While the "rolled-up" structure imposes order on the atoms of that structure, I do not think anything is critically lost if we assume that exponents can be matched bi-directionally, e.g. <√ROOT-V> is functionally equivalent to <V-√ROOT>.

3. Lexical stress is applied within μ units, so in a language like Armenian where stress surfaces on the ultimate syllable, I suggest that this is because the phonological system makes use of μ unit edges offered by morphological operations. Specifically, since μ units are built outwards, the addition of a new exponent redefines the relevant domain within which lexical stress can be assigned. This should be a relatively uncontroversial claim.